

# Time Picker

**Time Picker** The `<aava-time-picker>` component is an advanced time selection interface that combines a clean display mode with an interactive scroll-based picker. It features smooth scrolling animations, inline editing capabilities, keyboard navigation, and comprehensive validation for precise time input in 12-hour format.

**How to use** ■ `import { AavaTimePickerComponent } from "@aava/play-core"` ;

**Basic Usage** ■ A simple time picker with default behavior and display mode.

**Angular Preview Code**

```
<aava-time-picker [size] = "'lg'" (timeSelected) = "onTimeSelected($event)" > </aava-time-picker> selectedTime = ""; onTimeSelected ( time : string ) { this . selectedTime = time ; console . log ( 'Selected time:' , time ) ; }
```

**Sizes** ■ Four size options to fit different layout requirements and visual hierarchies.

**Angular Preview Code**

```
<aava-time-picker size = "sm"> </aava-time-picker> <aava-time-picker size = "md"> </aava-time-picker> <aava-time-picker size = "lg"> </aava-time-picker> <aava-time-picker size = "xl"> </aava-time-picker>
```

**Available Sizes** ■

- `sm` (Small) - Compact size for dense interfaces
- `md` (Medium) - Standard size for most use cases (default)
- `lg` (Large) - Prominent size for primary actions
- `xl` (Extra Large) - Extra large size for hero sections and CTAs

**Scroll Mode Interface** ■ Interactive scroll-based time selection with smooth animations and visual feedback.

**Angular Preview Code**

```
<aava-time-picker> </aava-time-picker> selectedTime = ""; scrollEvents : string [] = []; onTimeSelected ( time : string ) { this . selectedTime = time ; console . log ( 'Selected time:' , time ) ; } onScrollEvent ( event : any ) { this . scrollEvents . unshift ( ` Scroll event: ${ new Date ( ) . toLocaleTimeString ( ) } ` ) ; if ( this . scrollEvents . length > 5 ) { this . scrollEvents . pop ( ) ; } }
```

**Keyboard Navigation** ■ Full keyboard accessibility with arrow keys, number input, and focus management.

**Angular Preview Code**

```
<aava-time-picker> </aava-time-picker> selectedTime = ""; keyboardEvents : string [] = []; onTimeSelected ( time : string ) { this . selectedTime = time ; console . log ( 'Selected time:' , time ) ; } onKeyboardEvent ( event : string ) { this . keyboardEvents . unshift ( ` Keyboard: ${ event } - ${ new Date ( ) . toLocaleTimeString ( ) } ` ) ; if ( this . keyboardEvents . length > 5 ) { this . keyboardEvents . pop ( ) ; } }
```

**Validation and Constraints** ■ Comprehensive validation with proper error handling and boundary enforcement.

**Angular Preview Code**

**Custom Styling** ■ Customizable appearance with CSS custom properties and theme integration.

**Angular Preview Code**

**Features** ■

- Dual Interface Modes** ■
- Display Mode** : Clean, compact time display with click-to-edit functionality
- Scroll Mode** : Interactive scroll-based selection with smooth animations
- Seamless Transition** : Automatic switching between modes based on user interaction
- Scroll-Based Selection** ■
- Smooth Scrolling** : Hardware-accelerated scroll animations with momentum
- Visual Feedback** : Clear selection indicators and hover states
- Boundary Enforcement** : Prevents scrolling beyond valid time ranges
- Padding System** : Intelligent padding for optimal centering and selection
- Inline Editing** ■
- Direct Input** : Click any time item to edit directly in place
- Real-time Validation** : Immediate validation and formatting
- Keyboard Support** : Full keyboard navigation within inline inputs
- Auto-formatting** : Automatic formatting and validation

on blur Advanced Interactions ■ Mouse Wheel Support : Scroll through time values with mouse wheel Touch Support : Optimized for touch devices and mobile interaction Focus Management : Proper focus trapping and restoration Event Handling : Comprehensive event management and propagation control Accessibility Features ■ Keyboard Navigation : Full keyboard accessibility with arrow keys Screen Reader Support : Proper ARIA attributes and semantic structure Focus Indicators : Clear visual focus indicators Reduced Motion : Respects user motion preferences API Reference ■ Inputs ■ Property Type Description size TimePickerSize Size variant 'sm' | 'md' | 'lg' | 'xl' for the time picker (default: 'md' ) Outputs ■ Event Type Description timeSelected EventEmitter<string> Emitted when a time value is selected or changed Properties ■ Property Type Default Description hours string " Current hours value (01-12) minutes string " Current minutes value (00-59) period string " Current period value (AM/PM) displayTime string " Formatted display time string isFocused boolean false Whether the time picker is in focused state ViewChild References ■ Reference Type Description hoursScroll ElementRef Reference to hours scroll container minutesScroll ElementRef Reference to minutes scroll container periodScroll ElementRef Reference to period scroll container Internal Properties ■ Property Type Description showInlineInput boolean Whether inline input is currently visible inlineInputType 'hours' | 'minutes' | 'period' | null Type of current inline input inlineInputValue string Current value of inline input inlineInputPosition object Position and dimensions of inline input clickedItemValue string Value of clicked item for inline editing centeredHour string Currently centered hour in scroll view centeredMinute string Currently centered minute in scroll view centeredPeriod string Currently centered period in scroll view Readonly Arrays ■ Property Type Description hoursList string[] Array of hours (01-12) with padding minutesList string[] Array of minutes (00-59) with padding periodList string[] Array of periods (AM, PM) with padding Methods ■ Public Methods ■ Method Parameters Return Type Description onDisplayClick() Event void Handles display area click to enter scroll mode onIconClick() Event void Handles clock icon click to enter scroll mode onTimeItemClick() Event, type, value void Handles time item click for selection/editing onScrollEvent() Event, type void Handles scroll events for time selection centerScrollToValue() type, value void Centers scroll to specific time value updateDisplayTime() None void Updates the formatted display time emitTimeSelected() None void Emits the timeSelected event autoSelectCurrentScrollValues() None void Forces selection of currently visible values Private Methods ■ Method Parameters Return Type Description generatePaddedList() string[] string[] Generates padded list for smooth scrolling enforceScrollBoundaries() type void Enforces scroll boundaries for each column handleWheelEvent() WheelEvent, type void Handles mouse wheel events updateSelectionForColumn() type void Updates selection for specific column getFormattedTime() None string Returns formatted time string onDocumentClick() MouseEvent void Handles document clicks for focus management onInlineInputChange() Event void Handles inline input value changes onInlineInputKeyPress() KeyboardEvent void Handles inline input keyboard events onInlineInputBlur() None void Handles inline input blur events applyInlineInput() None void Applies inline input value with validation validateInlineHours() string string Validates and formats hours input validateInlineMinutes() string string Validates and formats minutes input

`validateInlinePeriod()` string string Validates and formats period input  
`closeInlineInput()` None void Closes inline input and restores normal view  
**CSS Classes** ■ The component provides several CSS classes for styling:

Class Name	Description
<code>.time-picker-container</code>	Main container wrapper
<code>.time-picker-input</code>	Input container with border and styling
<code>.time-display</code>	Display mode time text
<code>.time-scroll-container</code>	Scroll mode container
<code>.inline-input-overlay</code>	Inline input overlay container
<code>.inline-scroll-input</code>	Inline input field
<code>.separator</code>	Time separator (:)
<code>.time-scroll-column</code>	Individual scroll column container
<code>.period-column</code>	Period column with smaller width
<code>.scroll-area</code>	Scrollable area container
<code>.time-item</code>	Individual time item
<code>.selected</code>	Selected time item styling
<code>.padding-item</code>	Padding item (invisible)
<code>.hidden-item</code>	Hidden item during inline editing
<code>.icon-wrapper</code>	Clock icon container

**CSS Custom Properties** ■ Property Description

Property	Description
<code>--timepicker-background</code>	Background color of the time picker
<code>--timepicker-border</code>	Border of the time picker
<code>--timepicker-border-radius</code>	Border radius of the time picker
<code>--timepicker-shadow</code>	Shadow for the time picker container
<code>--timepicker-input-height</code>	Height of the input field
<code>--timepicker-input-min-width</code>	Minimum width of the input field
<code>--timepicker-input-padding-horizontal</code>	Horizontal padding inside input
<code>--timepicker-input-background</code>	Background color for the input
<code>--timepicker-input-border-width</code>	Border width of the input
<code>--timepicker-input-border-color</code>	Border color of the input
<code>--timepicker-input-border-radius-small</code>	Border radius for small input variant
<code>--timepicker-input-padding-small</code>	Padding for small input variant
<code>--timepicker-input-shadow-overlay</code>	Overlay shadow for input field
<code>--timepicker-input-text</code>	Text color for input
<code>--timepicker-display-font-family</code>	Font family for display text
<code>--timepicker-display-text</code>	Text color for display mode
<code>--timepicker-text-to-icon-gap</code>	Gap between display text and icon
<code>--timepicker-scroll-background</code>	Background color for scroll container
<code>--timepicker-scroll-gap-hours-minutes</code>	Gap between hours and minutes in scroll
<code>--timepicker-time-item-height</code>	Height of individual time items
<code>--timepicker-time-item-background</code>	Background color for time items
<code>--timepicker-time-item-padding</code>	Padding for time items
<code>--timepicker-time-item-border-radius</code>	Border radius for time items
<code>--timepicker-time-item-transition</code>	Transition timing for time items
<code>--timepicker-time-item-text</code>	Text color for time items
<code>--timepicker-time-item-hover-background</code>	Background on hover for time items
<code>--timepicker-time-item-hover-text</code>	Text color on hover for time items
<code>--timepicker-time-item-selected-text</code>	Text color for selected time item
<code>--timepicker-time-item-selected-font-weight</code>	Font weight for selected time item
<code>--timepicker-icon-size</code>	Size of the time picker icon
<code>--timepicker-icon-border-radius</code>	Border radius for the icon
<code>--timepicker-icon-padding</code>	Padding inside the icon
<code>--timepicker-icon-color</code>	Icon color
<code>--color-text-primary</code>	Text color used in the separator
<code>--timepicker-size-xsm-height</code>	Height for extra small size variant
<code>--timepicker-size-xsm-min-width</code>	Minimum width for extra small size
<code>--timepicker-size-xsm-padding-horizontal</code>	Horizontal padding for extra small size
<code>--timepicker-border-radius-xs</code>	Border radius for extra small variant
<code>--timepicker-size-xsm-font</code>	Font for extra small size
<code>--timepicker-size-xsm-item-height</code>	Item height for extra small variant
<code>--timepicker-size-xsm-icon-size</code>	Icon size for extra small variant
<code>--timepicker-size-sm-height</code>	Height for small size variant
<code>--timepicker-size-sm-min-width</code>	Minimum width for small size

--timepicker-size-sm-padding-horizontal Horizontal padding for small size  
--timepicker-border-radius-sm Border radius for small variant --timepicker-size-sm-font Font for small size --timepicker-size-sm-item-height Item height for small variant  
--timepicker-size-sm-icon-size Icon size for small variant --timepicker-size-md-height Height for medium size variant --timepicker-size-md-min-width Minimum width for medium size  
--timepicker-size-md-padding-horizontal Horizontal padding for medium size  
--timepicker-border-radius-md Border radius for medium variant --timepicker-size-md-font Font for medium size --timepicker-size-md-item-height Item height for medium variant  
--timepicker-size-md-icon-size Icon size for medium variant --timepicker-size-lg-height Height for large size variant --timepicker-size-lg-min-width Minimum width for large size  
--timepicker-size-lg-padding-horizontal Horizontal padding for large size  
--timepicker-border-radius-lg Border radius for large variant --timepicker-size-lg-font Font for large size --timepicker-size-lg-item-height Item height for large variant --timepicker-size-lg-icon-size Icon size for large variant --timepicker-size-xlg-height Height for extra large size variant  
--timepicker-size-xlg-min-width Minimum width for extra large size  
--timepicker-size-xlg-padding-horizontal Horizontal padding for extra large size  
--timepicker-border-radius-xl Border radius for extra large variant --timepicker-size-xlg-font Font for extra large size --timepicker-size-xlg-item-height Item height for extra large variant  
--timepicker-size-xlg-icon-size Icon size for extra large variant

**Best Practices**

- **User Experience**
- **Default Values** : Set sensible defaults (e.g., current time) for better UX
- Visual Feedback** : Ensure clear selection indicators and hover states
- Smooth Transitions** : Maintain smooth animations between modes
- Responsive Design** : Ensure the component works well on all screen sizes
- Loading States** : Handle loading states gracefully
- Performance**
- **Scroll Optimization** : Use hardware acceleration for smooth scrolling
- Event Debouncing** : Debounce scroll events to prevent performance issues
- Memory Management** : Clean up event listeners and timeouts properly
- Change Detection** : Use OnPush strategy for better performance
- Lazy Loading** : Load time lists only when needed
- Accessibility**
- **Keyboard Navigation** : Ensure all interactions work with keyboard
- Screen Reader Support** : Provide proper ARIA labels and descriptions
- Focus Management** : Maintain logical focus order and trapping
- Motion Preferences** : Respect user's reduced motion preferences
- High Contrast** : Ensure visibility in high contrast mode
- Validation**
- **Input Validation** : Validate all user inputs thoroughly
- Boundary Enforcement** : Prevent invalid time selections
- Error Handling** : Provide clear error messages and recovery options
- Format Consistency** : Maintain consistent time formatting
- Edge Cases** : Handle edge cases like leap seconds, DST changes
- Content Organization**
- **Clear Labels** : Use descriptive labels and placeholders
- Logical Grouping** : Group related time components logically
- Visual Hierarchy** : Use typography and spacing for clear hierarchy
- Consistent Spacing** : Maintain consistent spacing throughout
- Responsive Layout** : Adapt layout for different screen sizes
- Accessibility Guidelines**
- **Screen Reader Support**
- **ARIA Labels** : Provide descriptive labels for all interactive elements
- Live Regions** : Use live regions for dynamic content updates
- State Announcements** : Announce selection changes and mode switches
- Content Structure** : Use semantic HTML structure for better

navigation Keyboard Navigation ■ Tab Order : Ensure logical tab order through all interactive elements Arrow Keys : Support arrow key navigation within scroll areas Enter/Space : Support selection with Enter and Space keys Escape : Allow closing or canceling with Escape key Focus Indicators : Provide clear visual focus indicators Visual Design ■ High Contrast : Ensure sufficient contrast ratios for all text Color Independence : Don't rely solely on color for information Text Scaling : Support for text scaling and zoom Motion Sensitivity : Provide alternatives for users sensitive to motion Input Validation ■ Clear Messages : Provide clear, actionable error messages Real-time Feedback : Give immediate feedback for invalid inputs Recovery Options : Provide clear ways to correct errors Format Guidance : Show expected input format clearly

```
<aava-time-picker
  [size]='lg'
  (timeSelected)=onTimeSelected($event)
></aava-time-picker>
```

---

```
selectedTime = '';
```

```
onTimeSelected(time: string) {
  this.selectedTime = time;
  console.log('Selected time:', time);
}
```

```
<aava-time-picker size="sm"></aava-time-picker>
```

```
<aava-time-picker size="md"></aava-time-picker>
```

```
<aava-time-picker size="lg"></aava-time-picker>
```

```
<aava-time-picker size="xl"></aava-time-picker>
```

```
<aava-time-picker></aava-time-picker>
```

---

```
selectedTime = '';
scrollEvents: string[] = [];

onTimeSelected(time: string) {
  this.selectedTime = time;
  console.log('Selected time:', time);
}

onScrollEvent(event: any) {
  this.scrollEvents.unshift(
    `Scroll event: ${new Date().toLocaleTimeString()}`
  );
  if (this.scrollEvents.length > 5) {
    this.scrollEvents.pop();
  }
}
```

```
<aava-time-picker></aava-time-picker>
```

---

```
selectedTime = '';
keyboardEvents: string[] = [];

onTimeSelected(time: string) {
  this.selectedTime = time;
  console.log('Selected time:', time);
}

onKeyboardEvent(event: string) {
  this.keyboardEvents.unshift(
    `Keyboard: ${event} - ${new Date().toLocaleTimeString()}`
  );
  if (this.keyboardEvents.length > 5) {
    this.keyboardEvents.pop();
  }
}
```

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